Please replace the paragraph beginning on page 40, lines 3-7, with the following paragraph:

In addition, although the modules of the system 105 (Figure 1), the Geometry Generator, the Mesh Generator, Stress/Strain/Deformation Analyzer, and the Visualization module, are shown in different boxes, depending on the software tools utilized their functions may overlap with each other. Some functions, for example, that are done by one module, e.g., the Mesh Generator, TRUEGRID, thus, may also be done by the Geometry Generator, MIMICS, or vice versa.

IN THE CLAIMS:

Please replace claims 1, 60, 71, 76, 89, 102 with the following amended claims(a marked up copy of the amended claims is attached to this Amendment):

1. (Amended) A system for analyzing the use of medical devices comprising:

a) geometry generator that receives three-dimensional volumetric data of at least one anatomical feature and generates a geometric model of said anatomical feature;

b) mesh generator that receives the said geometric model of said anatomical feature and the geometric model of a medical device, and generates a finite element model or mesh incorporating both said anatomical feature and said medical device; and

c) stress/strain/deformation analyzer that receives said mesh incorporating both said anatomical feature and said medical device, materials properties of said anatomical feature and said medical device, and load on said anatomical feature and/or said medical device, and simulates stresses, strains, and deformations of said medical device.

60. (Amended) A method as defined in claim 58 where said endovascaular prosthesis is a cardiovascular stent device.

71. (Amended) A method as defined in claim 70 further comprising the step of simulating stresses, strains, and deformations to point of failure of said medical device.

76. (Amended) A method as defined in claim 74 where said endovascular prosthesis is a cardiovascular stent device.

89. (Amended) A method as defined in claim 88 where said endovascular prosthesis is a transluminally placed endovascular graft.